

WHAT IS CLAIMED IS:

1. A detection apparatus for detecting the presence of a detectable material in a sample comprising:

a spreading layer on which said sample is applied;

5 a catcher fixed to said spreading layer at a detection zone away from a position at which said sample is applied;

said catcher including an immunological epitope;

a marker supported in said spreading layer in a dry state, such that movement of said marker is possible when said marker is in a soluble state;

10 said marker, being capable of detection, includes an immunological epitope;

bispecific antibodies supported in said spreading layer in a dry state, such that movement of said bispecific antibodies is possible when said bispecific antibodies are in a soluble state;

15 said bispecific antibodies including a first bispecific antibody and a second bispecific antibody;

said first bispecific antibody being specific to said detectable material in said sample as well as said marker; and

20 said second bispecific antibody being specific to said detectable material in said sample as well as said catcher.

2. A detection method for detecting the presence of a detectable material in a sample comprising:

applying said sample to one end of a spreading layer such that said sample

chromatographically moves in a direction toward the other end of said spreading layer;

solubilizing a first bispecific antibody, a second bispecific antibody, and a marker, thereby permitting movement of said first bispecific antibody, said
5 second bispecific antibody, and said marker along said spreading layer;

bonding said detectable material with said first bispecific antibody and said second bispecific antibody such that said detectable material is interposed therebetween;

bonding said first bispecific antibody with said marker;

10 bonding said second bispecific antibody with a catcher fixed to said spreading layer at a detection zone located a prescribed distance from a point where said sample was applied to said spreading layer; and

analyzing ^{the} presence of said marker at said detection zone, whereby said presence of said marker corresponds with ^{the} presence of said detectable material.

15 3. A detection apparatus for detecting the presence of a detectable material in a sample comprising:

a fluid application section contacting said sample;

20 a reaction reagent section, having particles and marking elements movably contained therein, connected to said fluid application section such that said sample moves from said fluid application section to said reaction reagent section;

a porous carrier connected to said reaction reagent section such that said sample moves from said reaction reagent section to said porous carrier;

25 a reaction product formed from biological bonding said detectable material with both said marking elements and said particles when said detectable material is present in said sample; and

a catching section in said porous carrier made from a material having a pore size smaller than a size of said reaction product, such that chromatographic movement of said marking elements ~~not bonded~~ to said particles is permitted through said catching section and chromatographic movement of said reaction product is restricted.

4. ^{The} [A detection] apparatus [for detecting the presence of a detectable material in a sample] according to claim 3, wherein said pore size of said catching section is smaller than a ^{the} [particle] diameter of said particles.

5. ^{The} [A detection] apparatus [for detecting the presence of a detectable material in a sample] according to claim 4, wherein said detectable material is selected from at least one of human chorionic gonadotropin, luteinizing hormone, follicle stimulating hormone, thyroid stimulating hormone, insulin, and carcinoembryonic antigen.

6. ^{The} [A detection] apparatus [for detecting the presence of a detectable material in a sample] according to claim 3, wherein said pore size of said material of said catching section is larger than a ^{the} [particle] diameter of said particles.

7. ^{The} [A detection] apparatus [for detecting the presence of a detectable material in a sample] according to claim 6, wherein said detectable material is selected from at least one of hepatitis B surface antigen, C-reactive protein, and hemoglobin.

8. A detection method for detecting the presence of a detectable material in a sample comprising:

contacting said sample with a fluid application section;

chromatographically moving said sample through said fluid application section, a reaction reagent section, and a porous carrier;

reacting said sample with particles and marking elements contained in said

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reaction reagent section to form a reaction product, such that said detectable material biologically bonds with both said marking elements and said particles when said detectable material is present in said sample;

5 passing said sample, including any reaction product present, through a catching section, having a pore size smaller than a size of said reaction product and larger than a particle diameter of said marking elements; and

analyzing ^{the} presence of said marking elements at said catching section, whereby ^{the} presence of said marking elements corresponds with ^{the} presence of said detectable material.